

5Th Annual Region 6 MS4 Operators Conference

Corpus Christi, Texas

Storm Water 101

U.S. EPA

Terms to Know

- **NPDES** - National Pollutant Discharge Elimination System
- **CGP** – Construction General Permit
- **MS4** – Municipal Separate Storm Sewer System
- **SWP3 or SWPPP** – Storm Water Pollution Prevention Plan
- **BMP** – Best Management Practice
- **NOI** – Notice of Intent
- **NOT** – Notice of Termination
- **TMDL** – Total Maximum Daily Load
- **ESA** – Endangered Species Act
- **NHPA** – National Historic Preservation Act
- **SHPO/THPO** – State or Tribal Historic Preservation Officer

Why Regulate Storm Water?

The NPDES Storm Water Program









Source: NCTCOG *Storm Water Pollution Prevention Storm Water Pollution Prevention Practices for Practices for Construction*

What Do States Identify as the Leading Causes and Sources Affecting Impaired Waters?

- **Leading Causes:** Siltation, nutrients, bacteria, metals (primarily mercury), and oxygen depleting substances
- **Leading Sources:** Pollution from urban and agricultural land that is transported by precipitation and runoff

Sources of Impairment

- According to 2000 305b report, of the 32% of the nation's waters that were assessed, 40% were impaired:
 - **Rivers & Streams:** 19% assessed, 39% impaired, 11% of impairment due to urban runoff/storm sewers
 - **Lakes & Ponds:** 43% assessed, 45% impaired, 18% of impairment due to urban runoff/storm sewers
 - **Estuarine:** 36% assessed, 51% impaired, 32% of impairment due to urban runoff/storm sewers
 - >50% of impaired shoreline miles are impaired due to urban runoff/storm sewers

Potential Impacts from Storm Water

- Destruction/Degradation of aquatic habitat
- Accelerated loss of storage in lakes/reservoirs
- Diminished water recreation experiences
- Reduced aesthetic and preservation values
- Increased hydroelectric facility impairment
- Accelerated stream bank erosion
- Increased flood damages
- Reduced infiltration/groundwater recharge

WHY REGULATE STORM WATER?

- CWA “Fishable/Swimmable” goal
- Water Quality Inventory Reports indicate storm water is a large source of impairment
- Preventing degradation of good water quality
- CWA 402(p) – NPDES Storm Water Program

Expected Benefits

- Enhanced commercial, recreational and subsistence fishing
- Enhanced opportunities for swimming, boating and noncontact recreation
- Reduced flood damage
- Drinking water benefits
- Navigational benefits
- Reduced illness from consuming contaminated seafood and swimming in contaminated water
- Enhanced aesthetic value

How is Storm Water Regulated Under the NPDES Program?

- Phased approach to regulation
 - Phase I: Regulated discharges from large and medium MS4s and industrial activity - §402(p)(2)
 - Phase II: Regulated discharges from small MS4s and small construction - §402(p)(6)

Storm Water Regulatory History

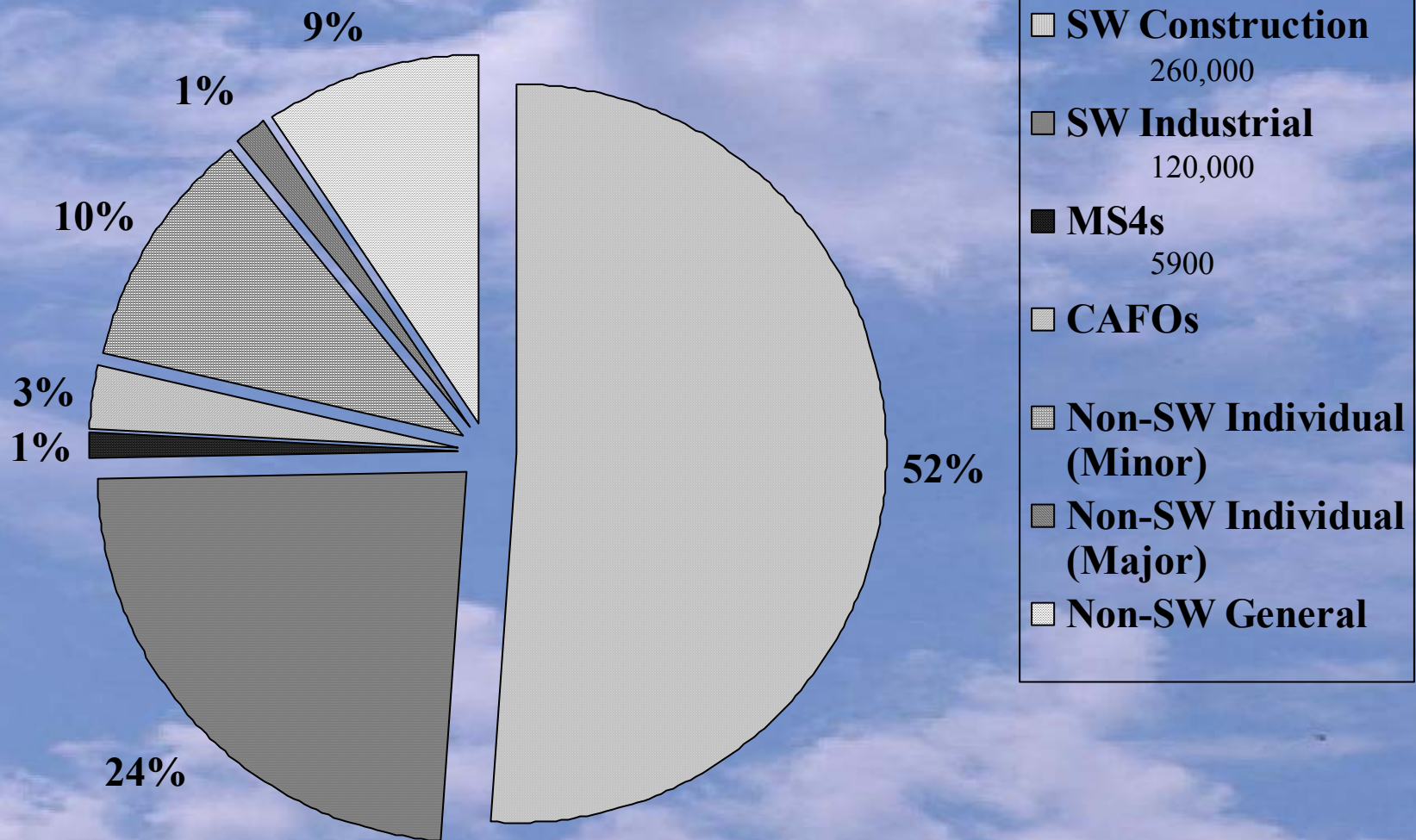
- Storm Water Phase I Final Rule
 - November 16, 1990
- Transportation Act of 1991
- 9th Circuit Court Decision - December 18, 1992
- Storm Water Phase II Final Rule
 - December 8, 1999
 - addresses other sources to “protect water quality”

Who are the Permitting Authorities for the Storm Water Program?

- 45 States and one Territory serve as PAs for the NPDES Storm Water Program
- 7 non-delegated States/Territories where EPA is the PA include: AK, DC, ID, MA, NH, NM, and PR (Partial in OK & TX)
- EPA may still issue permits on Indian land and for Federal facilities in authorized States (TX, LA, OK, NM)

Universe of NPDES Facilities

(including Storm Water Phase I and II)



Storm water facilities represent 75% of NPDES universe!

NPDES Storm Water Program

Industrial Activities

Large and Small Construction

Municipal Separate Storm Sewer
Systems (MS4s)



Discharge of Storm Water Associated with Industrial Activity

- Definition found at 40 CFR 122.26(b)(14)(i)-(xi)
- 11 categories of industrial activities
- Related to manufacturing, processing, or materials storage areas
- Includes Federal, State, and municipally-owned and operated facilities

Regulated Industrial Activities

- Facilities Subject to Standards (i)
- Heavy Manufacturing (ii)
- Mining/Oil and Gas (iii)
- Hazardous Waste Facilities (iv)
- Landfills (v)
- Recycling Facilities (vi)
- Steam Electric Power Plants (vii)
- Transportation Industries (viii)
- Sewage Treatment Plants (ix)

Regulated Industrial Activities: Light Manufacturing

- Found in Category xi
- Identified by SIC code
- “No Exposure”

EPA's Multi-Sector General Permit (MSGP)

- Developed using industry-specific data from previous permit application process
- Consolidated industry data into 29 industry sectors with tailored requirements
- Focuses on development and implementation of storm water pollution prevention plans
- Published on October 30, 2000; NOIs due by Jan. 29, 2001

How Does a Facility Apply for Coverage Under the MSGP?

- SWPPP in place prior to NOI submittal
- Complete ESA and NHPA screening
- Complete and submit NOI form
 - Facility information and certifications
 - MS4 notification
 - Deadlines
- Use a Notice of Termination (NOT) to discontinue coverage

Phase II Rule:

Changes to Industrial Program

- ISTEA moratorium expired
- “No exposure” exclusion expanded to all industrial categories
- All industrial categories must either:
 - Submit No Exposure Certification
 - Apply for Permit Coverage

The ISTEA Moratorium

- Intermodal Surface Transportation Efficiency Act of 1991
- ISTEA delayed permitting for industrial activities operated by municipalities with populations less than 100,000
- Phase II set the deadline to obtain permit coverage to no later than March 10, 2003.

What is the “No Exposure” Provision?

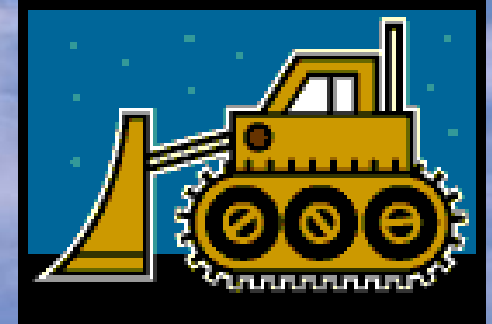
- Original no exposure exemption
 - Only available to Category (xi) facilities with no exposure
 - No certification required
- 9th Circuit Court Decision
 - Remanded for further rulemaking
- Final Phase II Rule
 - No exposure provision
 - Applies to all Categories, except construction
 - Requires certification of no exposure

How Does the No Exposure Certification Work?

- EPA's No Exposure Form asks a series of Yes/No questions to help determine if no exposure exists
 - May submit only if answer “no” to all
 - Applies in States where EPA is the permitting authority; effective date was Feb. 7, 2000
- NPDES-authorized States will adopt own form after updating State rules

NPDES Storm Water Program

Industrial Activities



Large and Small Construction

Municipal Separate Storm Sewer
Systems (MS4s)

Regulated Industrial Activities: Construction

- Found under Category (x)
- Land Disturbance of five or more acres
 - Clearing, grading or excavation
- Activities part of a larger common plan of development
 - Multiple activities within a contiguous area
 - Includes activities taking place on different schedules

Large Construction (Phase I) Permitting

- Construction General Permit (CGP)
 - Reissued on Feb. 17, 1998 [63 FR 7858-8014]
 - Expired on Feb. 17, 2003
- No waivers available
- Requires storm water pollution prevention plan and NOI

Small Construction (Phase II) Permitting

- Requires permit coverage for:
 - Construction activity disturbing ≥ 1 acre and < 5 acres
 - Construction activity below 1 acre that is part of a larger common plan of development or sale
- Potential permit coverage for:
 - Construction activity that disturbs less than 1 acre of land may be designated based on water quality impact

Waivers for Small Construction Activities

- Rainfall erosivity factor less than 5
 (“low rainfall erosivity”)
- Storm water controls are not needed
 based on a TMDL or equivalent
 assessment that addresses the pollutants
 of concern

What Permitting Options Are Available?

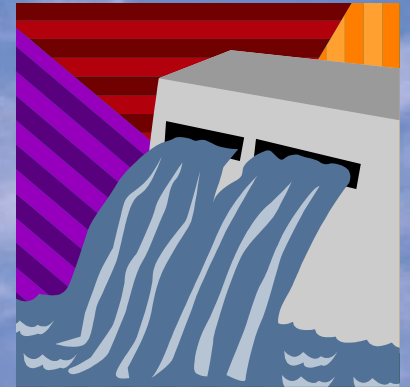
- Construction General Permit (CGP) applies to large construction activities
- No permit yet for small construction activities
 - EPA expects permit to be similar to CGP
 - Expect permit June 2003
 - EPA's next CGP will contain requirements for all construction activity

NPDES Storm Water Program

Industrial Activities

Large and Small Construction

**Municipal Separate Storm Sewer
Systems (MS4s)**



What is an MS4?

A municipal separate storm sewer system
(MS4) is:

A conveyance or system of conveyances... owned by a State, city, town, or other public entity that discharges to waters of the U.S. and is:

- designed or used for collecting or conveying storm water
- not a combined sewer
- not part of a Publicly Owned Treatment Works (POTW)

Storm Water Phase II Final Rule

Small MS4 Coverage

What is a “small” MS4?

A small MS4 is any MS4 that is not already designated and regulated as a medium or large MS4, and includes Federally-operated systems.

Storm Water Phase II Final Rule

Small MS4 Coverage

A regulated small MS4 is any small MS4:

- Located in an “urbanized area” (“automatic” nationwide designation) and not waived by the PA; or
- Designated by the PA

Small MS4 Coverage

Urbanized Area Definition

A central place (or places) and the adjacent densely settled surrounding territory that together have a minimum residential population of 50,000 people and a minimum average density of 1,000 people/square mile.

Small MS4 Coverage

Determining Location in a UA

- Appendix 6 to the preamble
- www.epa.gov/region6/sws (go to hot topics)
- www.census.gov/mp/www/geo/msgeo12.html
- http://factfinder.census.gov/java_prod/dads.ui.homePage.HomePage
- State Data Centers

Small MS4 Coverage

Designation by the PA

- The PA must develop and apply designation criteria to small MS4s, located outside of a UA, serving a jurisdiction with $\geq 10,000$ population and $\geq 1,000/\text{sq. mile}$ population density

Designation by the PA

Designation Criteria

- Discharge to sensitive waters
- High growth or growth potential
- High population density
- Contiguity to an urbanized area
- Significant contributor of pollutants to waters of the U.S.
- Ineffective protection of water quality by other programs

Designation by the PA

- The PA must also designate any small MS4 that is substantially contributing pollutants to a physically interconnected regulated MS4

Regulated Small MS4 Waivers

Waiver Option 1

Available where...

- The regulated small MS4 serves a population of less than 1,000 within the UA
- The regulated small MS4 is not contributing to the pollutant loadings of a physically interconnected regulated MS4
- If the regulated small MS4 is discharging to an impaired water body, storm water controls are not needed based on a TMDL that addresses the pollutants of concern

Regulated Small MS4 Waivers

Waiver Option 2

Available where...

- The regulated small MS4 serves a population of less than 10,000
- The PA has evaluated all waters that receive a discharge from the regulated small MS4
- The PA has determined that storm water controls are not needed based on a TMDL or equivalent analysis that addresses the pollutants of concern
- The PA has determined that future discharges will not impact water quality.

Regulated Small MS4

Permit Requirements

- Required to develop, implement and enforce a program to:
 - Reduce the discharge of pollutants to the maximum extent practicable (MEP)
- Program must include:
 - Six minimum control measures
 - Evaluation/assessment efforts & recordkeeping

Six Minimum Control Measures

- Public Education and Outreach
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Storm Water Management in New and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

Regulated Small MS4

Permit Requirements

- Must submit an NOI or individual permit application and identify the following elements for each minimum control measure:
 - Best management practices
 - Measurable goals
 - Timing and frequency of the actions
 - Responsible persons

The Interaction of Federal and Municipal Construction Programs

- NPDES Storm Water Construction Program
 - Administered by the NPDES PA
 - Requires the construction operator to obtain an NPDES storm water permit
 - Nationwide coverage
- NPDES-regulated MS4 Construction Programs
 - Administered by the MS4 operator
 - Requirements vary between MS4s

Deadlines for Small MS4 Compliance

- “Automatically” designated small MS4s:
 - Permit coverage by March 10, 2003
 - If PA has approved schedule for phasing coverage for MS4s <10,000 - coverage by March 8, 2007
- Full implementation of MS4’s program:
 - Within 5 years of permit issuance

Summary - Phase I

- MSGP available for industrial activities
- Construction General Permit available for construction activity disturbing > 5 acres
- Most MS4s $> 100,000$ in population have individual Phase I MS4 permits

Summary - Phase II

- No Exposure certification now available in States where EPA is the permitting authority
- Regulated Small MS4s need permit coverage by March 10, 2003
- Small Construction operators need permit coverage by March 10, 2003

Who to Contact

General Information

- USEPA Headquarters

sw2@epa.gov

<http://www.epa.gov/npdes/stormwater>

- USEPA Regional Offices

- www.epa.gov.region6/sws

- larsen.brent@epa.gov

- State Offices

Who to Contact

To Obtain Copies of Rules and Permits:

- EPA Water Resources Center
 - **202-566-1729 (ph)**
 - **202-566-1736(fax)**
 - **center.water-resources@epa.gov**
- EPA's OWM Web Site (to download copies)
 - **www.epa.gov/npdes/stormwater**

To Obtain Status of Permit (EPA issued):

- EPA NOI Processing Center
 - **866-352-7755**